

# SEQUENCE LISTING

<110> CHAO, Moses V.  
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<120> A TRANSMEMBRANE PROTEIN AS A DOWNSTREAM TARGET OF NEUROTROPHIN AND  
EPHRIN RECEPTOR TYROSINE KINASES, DNA ENCODING SAME AND MONOCLONAL  
ANTIBODIES THERETO

<130> CHAO11A

<140> NOT YET ASSIGNED

<141> 2001-12-19

<150> 60/256,909

<151> 2000-12-21

<160> 8

<170> PatentIn version 3.1

<210> 1

<211> 5148

<212> DNA

<213> Rattus norvegicus

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Pro Asn Lys Ala Gly Glu Thr Pro Tyr Asn Ile Asp Cys Ser His Gln  
405 410 415

Lys Ser Ile Leu Thr Gln Ile Phe Gly Ala Arg His Leu Ser Pro Thr  
420 425 430

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Cys Leu Pro Ser Phe Val Ile Phe Leu Phe Ile Val Gly Cys Ile Ile				
	660		665	670
Ala Gly Ile Thr Leu Leu Ala Ile Phe Arg Val Asp Pro Lys His Leu				
	675		680	685
Thr Val Asn Ala Ile Leu Ile Ser Ile Ala Ser Val Val Gly Leu Ala				
	690		695	700
Phe Val Leu Asn Cys Arg Thr Trp Trp Gln Val Leu Asp Ser Leu Leu				
	705		710	715 720
Asn Ser Gln Arg Lys Arg Leu His Ser Ala Ala Ser Lys Leu His Lys				
	725		730	735
Leu Lys Ser Glu Gly Phe Met Lys Val Leu Lys Cys Glu Val Glu Leu				
	740		745	750
Met Ala Arg Met Ala Lys Thr Ile Asp Ser Phe Thr Gln Asn Gln Thr				
	755		760	765
Arg Leu Val Val Ile Ile Asp Gly Leu Asp Ala Cys Glu Gln Asp Lys				
	770		775	780
Val Leu Gln Met Leu Asp Thr Val Arg Val Leu Phe Ser Lys Gly Pro				
	785		790	795 800
Phe Ile Ala Ile Phe Ala Ser Asp Pro His Ile Ile Ile Lys Ala Ile				
	805		810	815
Asn Gln Asn Leu Asn Ser Val Leu Arg Asp Ser Asn Ile Asn Gly His				
	820		825	830
Asp Tyr Met Arg Asn Ile Val His Leu Pro Val Phe Leu Asn Ser Arg				
	835		840	845

Gly Leu Ser Asn Ala Arg Lys Phe Leu Val Thr Ser Ala Thr Asn Gly  
850 855 860

Asp Ile Thr Cys Ser Asp Thr Thr Gly Thr Gln Glu Asp Thr Asp Arg  
865 870 875 880

Arg Val Ser Gln Asn Ser Leu Gly Glu Met Thr Lys Leu Gly Ser Lys  
885 890 895

Thr Ala Leu Asn Arg Arg Asp Thr Tyr Arg Arg Arg Gln Met Gln Arg  
900 905 910

Thr Ile Thr Arg Gln Met Ser Phe Asp Leu Thr Lys Leu Leu Val Thr  
915 920 925

Glu Asp Trp Phe Ser Asp Ile Ser Pro Gln Thr Met Arg Arg Leu Leu  
930 935 940

Asn Ile Val Ser Val Thr Gly Arg Leu Leu Arg Ala Asn Gln Ile Thr  
945 950 955 960

Phe Asn Trp Asp Arg Leu Ala Ser Trp Ile Asn Leu Thr Glu Gln Trp  
965 970 975

Pro Tyr Arg Thr Ser Trp Leu Ile Leu Tyr Leu Glu Glu Thr Glu Gly  
980 985 990

Leu Pro Asp Gln Met Thr Leu Lys Thr Met Tyr Glu Arg Ile Ser Lys  
995 1000 1005

Asn Ile Pro Thr Thr Lys Asp Val Glu Pro Leu Leu Glu Ile Asp  
1010 1015 1020

Gly Asp Ile Arg Asn Phe Glu Val Phe Leu Ser Ser Arg Thr Pro  
1025 1030 1035

Val Leu Val Ala Arg Asp Val Lys Thr Phe Leu Pro Cys Thr Val  
1040 1045 1050

Asn Leu Asp Pro Lys Leu Arg Glu Ile Ile Ala Asp Val Arg Ala  
1055 1060 1065

Ala Arg Glu Gln Ile Asn Ile Gly Gly Leu Ala Tyr Pro Pro Leu

1070	1075	1080
Pro Leu His Glu Gly Pro	Pro Arg Pro Pro Ser	Gly Tyr Ser Gln
1085	1090	1095
Pro Ala Ser Val Cys Ser	Ser Ala Ser Phe Asn	Gly Pro Phe Pro
1100	1105	1110
Gly Gly Val Val Ser Pro	Gln Pro His Ser Ser	Tyr Tyr Ser Gly
1115	1120	1125
Leu Ser Gly Pro Gln His	Pro Phe Tyr Asn Arg	Ala Ala Val Pro
1130	1135	1140
Ala Thr Gly Ser Ser Leu	Leu Leu Ser Ser Met	Thr Val Asp Val
1145	1150	1155
Val Cys Glu Lys Leu Arg	Gln Ile Glu Gly Leu	Asp Gln Asn Met
1160	1165	1170
Met Pro Gln Tyr Cys Thr	Thr Ile Lys Lys Ala	Asn Ile Asn Gly
1175	1180	1185
Arg Val Leu Ser Gln Cys	Asn Ile Asp Glu Leu	Lys Lys Glu Met
1190	1195	1200
Ala Met Asn Phe Gly Asp	Trp His Leu Phe Arg	Ser Met Val Leu
1205	1210	1215
Glu Met Arg Ser Val Glu	Ser Gln Val Val Pro	Glu Asp Pro Arg
1220	1225	1230
Phe Leu Asn Glu Asn Ser	Ser Ala Pro Val Pro	His Gly Glu Ser
1235	1240	1245
Ala Arg Arg Ser Ser His	Thr Glu Leu Pro Leu	Thr Glu Leu Ser
1250	1255	1260
Ser Gln Thr Pro Tyr Thr	Leu Asn Phe Ser Phe	Glu Glu Leu Asn
1265	1270	1275
Thr Leu Gly Leu Asp Glu	Gly Ala Pro Arg His	Ser Asn Leu Ser
1280	1285	1290

Trp Gln Ser Gln Thr Arg Arg Thr Pro Ser Leu Ser Ser Leu Asn  
 1295 1300 1305

Ser Gln Asp Ser Ser Ile Glu Ile Ser Lys Leu Thr Asp Lys Val  
 1310 1315 1320

Gln Ala Glu Tyr Arg Asp Ala Tyr Arg Glu Tyr Ile Ala Gln Met  
 1325 1330 1335

Ser Gln Leu Glu Gly Gly Thr Gly Ser Ser Thr Ile Ser Gly Arg  
 1340 1345 1350

Ser Ser Pro His Ser Thr Tyr Tyr Ile Gly Gln Ser Ser Ser Gly  
 1355 1360 1365

Gly Ser Ile His Ser Thr Leu Glu Gln Glu Arg Gly Lys Glu Gly  
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Glu Leu Lys Gln Glu Asp Gly Arg Lys Ser Phe Leu Met Lys Arg  
 1385 1390 1395

Gly Asp Val Ile Asp Tyr Ser Ser Ser Gly Val Ser Thr Asn Glu  
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Ala Ser Pro Leu Asp Pro Ile Thr Glu Glu Asp Glu Lys Ser Asp  
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Gln Ser Gly Ser Lys Leu Leu Pro Gly Lys Lys Ser Ser Glu Arg  
 1430 1435 1440

Pro Ser Leu Phe Gln Thr Asp Leu Lys Leu Lys Gly Gly Gly Leu  
 1445 1450 1455

Arg Tyr Gln Lys Leu Pro Ser Asp Glu Asp Glu Ser Gly Thr Gly  
 1460 1465 1470

Arg Val Gln Ile Thr Pro His Cys Ser Lys Met Ile Arg Thr Lys  
 1475 1480 1485

Arg Leu Lys Ala Lys Gln Arg Glu Cys Ala Ser Pro Gln Glu His  
 1490 1495 1500

Ser Ala Glu Pro Ile Arg Thr Phe Ile Lys Ala Lys Glu Tyr Leu

1505		1510		1515
Ser Asp	Ala Leu Leu Asp	Lys Lys Asp Ser Ser	Asp Ser Gly Val	
1520		1525	1530	
Arg Ser	Asn Glu Ser Ser	Pro Asn His Ser Leu	His Asn Glu Ala	
1535		1540	1545	
Ala Asp	Asp Ser Gln Leu	Glu Lys Ala Asn Leu	Ile Glu Leu Glu	
1550		1555	1560	
Asp Glu	Gly His Ser Gly	Lys Arg Gly Met Pro	His Ser Leu Ser	
1565		1570	1575	
Gly Leu	Gln Asp Pro Ile	Ile Ala Arg Met Ser	Ile Cys Ser Glu	
1580		1585	1590	
Asp Lys	Lys Ser Pro Ser	Glu Cys Ser Leu Ile	Ala Ser Ser Pro	
1595		1600	1605	
Glu Glu	Ser Trp Pro Ala	Cys Gln Lys Ala Tyr	Asn Leu Asn Arg	
1610		1615	1620	
Thr Pro	Ser Thr Val Thr	Leu Asn Asn Asn Thr	Ala Pro Thr Asn	
1625		1630	1635	
Arg Ala	Asn Gln Asn Phe	Asp Glu Ile Glu Gly	Ile Arg Glu Thr	
1640		1645	1650	
Ser Gln	Val Ile Leu Arg	Pro Gly Pro Ser Pro	Asn Pro Thr Ala	
1655		1660	1665	
Val Gln	Asn Glu Asn Leu	Lys Ser Met Ala His	Lys Arg Ser Gln	
1670		1675	1680	
Arg Ser	Ser Tyr Thr Arg	Leu Ser Lys Asp Ala	Ser Glu Leu His	
1685		1690	1695	
Ala Ala	Ser Ser Glu Ser	Thr Gly Phe Gly Glu	Glu Arg Glu Ser	
1700		1705	1710	
Ile Leu				
1715				









Leu	Ala	Glu	Met	Ile	Ala	Thr	Leu	Ser	Asp	Ala	Cys	Glu	Arg	Glu	Phe	
615					620					625					630	
ggc	ttt	ttg	gca	acc	agg	ctt	ttt	cga	gta	ttc	aag	act	gaa	gat	act	2095
Gly	Phe	Leu	Ala	Thr	Arg	Leu	Phe	Arg	Val	Phe	Lys	Thr	Glu	Asp	Thr	
				635					640					645		
cag	ggc	aaa	aag	aaa	tgg	aaa	aaa	aca	tgt	tgt	ctc	cca	tct	ttt	gtc	2143
Gln	Gly	Lys	Lys	Lys	Trp	Lys	Lys	Thr	Cys	Cys	Leu	Pro	Ser	Phe	Val	
			650					655					660			
atc	ttc	ctt	ttt	atc	att	ggc	tgc	att	ata	tct	gga	att	act	ctt	ctg	2191
Ile	Phe	Leu	Phe	Ile	Ile	Gly	Cys	Ile	Ile	Ser	Gly	Ile	Thr	Leu	Leu	
		665				670					675					
gct	ata	ttt	aga	gtt	gac	cca	aag	cat	ctg	act	gta	aat	gct	gtc	ctc	2239
Ala	Ile	Phe	Arg	Val	Asp	Pro	Lys	His	Leu	Thr	Val	Asn	Ala	Val	Leu	
	680					685					690					
ata	tca	atc	gca	tct	gta	gtg	gga	ttg	gcc	ttt	gtg	ttg	aac	tgt	cgt	2287
Ile	Ser	Ile	Ala	Ser	Val	Val	Gly	Leu	Ala	Phe	Val	Leu	Asn	Cys	Arg	
695					700				705						710	
aca	tgg	tgg	caa	gtg	ctg	gac	tcg	ctc	ctg	aat	tcc	caa	aga	aaa	cgc	2335
Thr	Trp	Trp	Gln	Val	Leu	Asp	Ser	Leu	Leu	Asn	Ser	Gln	Arg	Lys	Arg	
			715					720						725		
ctc	cat	aat	gca	gcc	tcc	aaa	ctg	cac	aaa	ttg	aaa	agt	gaa	gga	ttc	2383
Leu	His	Asn	Ala	Ala	Ser	Lys	Leu	His	Lys	Leu	Lys	Ser	Glu	Gly	Phe	
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atg	aaa	gtt	ctt	aaa	tgt	gaa	gtg	gaa	ttg	atg	gcc	agg	atg	gca	aaa	2431
Met	Lys	Val	Leu	Lys	Cys	Glu	Val	Glu	Leu	Met	Ala	Arg	Met	Ala	Lys	
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acc	att	gac	agc	ttc	act	cag	aat	cag	aca	agg	ctg	gtg	gtc	atc	atc	2479
Thr	Ile	Asp	Ser	Phe	Thr	Gln	Asn	Gln	Thr	Arg	Leu	Val	Val	Ile	Ile	
	760					765					770					
gat	gga	tta	gat	gcc	tgt	gag	cag	gac	aaa	gtc	ctt	cag	atg	ctg	gac	2527
Asp	Gly	Leu	Asp	Ala	Cys	Glu	Gln	Asp	Lys	Val	Leu	Gln	Met	Leu	Asp	
775				780					785					790		
act	gtc	cga	gtt	ctg	ttt	tca	aaa	ggc	ccg	ttc	att	gcc	att	ttt	gca	2575
Thr	Val	Arg	Val	Leu	Phe	Ser	Lys	Gly	Pro	Phe	Ile	Ala	Ile	Phe	Ala	
			795					800						805		
agt	gat	cca	cat	att	atc	ata	aag	gca	att	aac	cag	aac	ctc	aat	agt	2623
Ser	Asp	Pro	His	Ile	Ile	Ile	Lys	Ala	Ile	Asn	Gln	Asn	Leu	Asn	Ser	
			810				815						820			
gtg	ctt	cgg	gat	tca	aat	ata	aat	ggc	cat	gac	tac	atg	cgc	aac	ata	2671
Val	Leu	Arg	Asp	Ser	Asn	Ile	Asn	Gly	His	Asp	Tyr	Met	Arg	Asn	Ile	
		825					830				835					
gtc	cac	ttg	cct	gtg	ttc	ctt	aat	agt	cgt	gga	cta	agc	aat	gca	aga	2719
Val	His	Leu	Pro	Val	Phe	Leu	Asn	Ser	Arg	Gly	Leu	Ser	Asn	Ala	Arg	
	840					845					850					



Ser	Ile	Gly	Gly	Leu	Ala	Tyr	Pro	Pro	Leu	Pro	Leu	His	Glu	Gly	
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cct	cct	agg	gcg	cca	tca	ggg	tac	agc	cag	ccc	cca	tcc	gtg	tgc	3466
Pro	Pro	Arg	Ala	Pro	Ser	Gly	Tyr	Ser	Gln	Pro	Pro	Ser	Val	Cys	
	1090					1095					1100				
tct	tcc	acg	tcc	ttc	aat	ggg	ccc	ttc	gca	ggg	gga	gtg	gtg	tca	3511
Ser	Ser	Thr	Ser	Phe	Asn	Gly	Pro	Phe	Ala	Gly	Gly	Val	Val	Ser	
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cca	cag	cct	cac	agc	agc	tat	tac	agc	ggc	atg	acg	ggc	cct	cag	3556
Pro	Gln	Pro	His	Ser	Ser	Tyr	Tyr	Ser	Gly	Met	Thr	Gly	Pro	Gln	
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cat	ccc	ttc	tac	aac	agg	ggg	tca	ggc	cca	gcc	cca	ggc	cca	gtg	3601
His	Pro	Phe	Tyr	Asn	Arg	Gly	Ser	Gly	Pro	Ala	Pro	Gly	Pro	Val	
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gta	tta	ctg	aat	tca	ctg	aat	gtg	gat	gca	gta	tgt	gag	aag	ctg	3646
Val	Leu	Leu	Asn	Ser	Leu	Asn	Val	Asp	Ala	Val	Cys	Glu	Lys	Leu	
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aaa	caa	ata	gaa	ggg	ctg	gac	cag	agt	atg	ctg	cct	cag	tat	tgt	3691
Lys	Gln	Ile	Glu	Gly	Leu	Asp	Gln	Ser	Met	Leu	Pro	Gln	Tyr	Cys	
	1165					1170					1175				
acc	acg	atc	aaa	aag	gca	aac	ata	aat	ggc	cgt	gtg	tta	gct	cag	3736
Thr	Thr	Ile	Lys	Lys	Ala	Asn	Ile	Asn	Gly	Arg	Val	Leu	Ala	Gln	
	1180					1185					1190				
tgt	aac	att	gat	gag	ctg	aag	aaa	gag	atg	aat	atg	aat	ttt	gga	3781
Cys	Asn	Ile	Asp	Glu	Leu	Lys	Lys	Glu	Met	Asn	Met	Asn	Phe	Gly	
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Asp	Trp	His	Leu	Phe	Arg	Ser	Thr	Val	Leu	Glu	Met	Arg	Asn	Ala	
	1210					1215					1220				
gaa	agc	cac	gtg	gtc	cct	gaa	gac	cca	cgt	ttc	ctc	agt	gag	agc	3871
Glu	Ser	His	Val	Val	Pro	Glu	Asp	Pro	Arg	Phe	Leu	Ser	Glu	Ser	
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agc	agt	ggc	cca	gcc	ccg	cac	ggg	gag	cct	gct	cgc	cgc	gct	tcc	3916
Ser	Ser	Gly	Pro	Ala	Pro	His	Gly	Glu	Pro	Ala	Arg	Arg	Ala	Ser	
	1240					1245					1250				
cac	aac	gag	ctg	cct	cac	acc	gag	ctc	tcc	agc	cag	acg	ccc	tac	3961
His	Asn	Glu	Leu	Pro	His	Thr	Glu	Leu	Ser	Ser	Gln	Thr	Pro	Tyr	
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aca	ctc	aac	ttc	agc	ttc	gaa	gag	ctg	aac	acg	ctt	ggc	ctg	gat	4006
Thr	Leu	Asn	Phe	Ser	Phe	Glu	Glu	Leu	Asn	Thr	Leu	Gly	Leu	Asp	
	1270					1275					1280				
gaa	ggg	gcc	cct	cgt	cac	agt	aat	cta	agt	tgg	cag	tca	caa	act	4051
Glu	Gly	Ala	Pro	Arg	His	Ser	Asn	Leu	Ser	Trp	Gln	Ser	Gln	Thr	
	1285					1290					1295				

cgc Arg	aga Arg 1300	acc Thr	cca Pro	agt Ser	ctt Leu	tcg Ser 1305	agt Ser	ctc Leu	aat Asn	tcc Ser	cag Gln 1310	gat Asp	tcc Ser	agt Ser	4096
att Ile	gaa Glu 1315	att Ile	tca Ser	aag Lys	ctt Leu	act Thr 1320	gat Asp	aag Lys	gtg Val	cag Gln	gcc Ala 1325	gag Glu	tat Tyr	aga Arg	4141
gat Asp	gcc Ala 1330	tat Tyr	aga Arg	gaa Glu	tac Tyr	att Ile 1335	gct Ala	cag Gln	atg Met	tcc Ser	cag Gln 1340	tta Leu	gaa Glu	ggg Gly	4186
ggc Gly	ccc Pro 1345	ggg Gly	tct Ser	aca Thr	acc Thr	att Ile 1350	agt Ser	ggc Gly	aga Arg	tct Ser	tct Ser 1355	cca Pro	cat His	agc Ser	4231
aca Thr	tat Tyr 1360	tac Tyr	atg Met	ggt Gly	cag Gln	agt Ser 1365	tca Ser	tca Ser	ggg Gly	ggc Gly	tct Ser 1370	att Ile	cat His	tca Ser	4276
aac Asn	cta Leu 1375	gag Glu	caa Gln	gaa Glu	aag Lys	ggg Gly 1380	aag Lys	gat Asp	agt Ser	gaa Glu	cca Pro 1385	aag Lys	ccc Pro	gat Asp	4321
gat Asp	ggg Gly 1390	agg Arg	aag Lys	tcc Ser	ttt Phe	cta Leu 1395	atg Met	aag Lys	agg Arg	gga Gly	gat Asp 1400	gtt Val	atc Ile	gat Asp	4366
tat Tyr	tca Ser 1405	tca Ser	tca Ser	ggg Gly	gtt Val	tcc Ser 1410	acc Thr	aac Asn	gat Asp	gct Ala	tcc Ser 1415	ccc Pro	ctg Leu	gat Asp	4411
cct Pro	atc Ile 1420	act Thr	gaa Glu	gaa Glu	gat Asp	gaa Glu 1425	aaa Lys	tca Ser	gat Asp	cag Gln	tca Ser 1430	ggc Gly	agt Ser	aag Lys	4456
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aca Thr	gat Asp 1450	ttg Leu	aag Lys	ctt Leu	aag Lys	gga Gly 1455	agt Ser	ggg Gly	ctg Leu	cgc Arg	tat Tyr 1460	caa Gln	aaa Lys	ctc Leu	4546
cca Pro	agt Ser 1465	gac Asp	gag Glu	gat Asp	gaa Glu	tct Ser 1470	ggc Gly	aca Thr	gaa Glu	gaa Glu	tca Ser 1475	gat Asp	aac Asn	act Thr	4591
cca Pro	ctg Leu 1480	ctc Leu	aaa Lys	gat Asp	gac Asp	aaa Lys 1485	gac Asp	aga Arg	aaa Lys	gcc Ala	gaa Glu 1490	ggg Gly	aaa Lys	gta Val	4636
gag Glu	aga Arg 1495	gtg Val	ccg Pro	aag Lys	tct Ser	cca Pro 1500	gaa Glu	cac His	agt Ser	gct Ala	gag Glu 1505	ccg Pro	atc Ile	aga Arg	4681
acc	ttc	att	aaa	gcc	aaa	gag	tat	tta	tcg	gat	gcg	ctc	ctt	gac	4726

Thr	Phe	Ile	Lys	Ala	Lys	Glu	Tyr	Leu	Ser	Asp	Ala	Leu	Leu	Asp	
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Lys	Lys	Asp	Ser	Ser	Asp	Ser	Gly	Val	Arg	Ser	Ser	Glu	Ser	Ser	
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Pro	Asn	His	Ser	Leu	His	Asn	Glu	Val	Ala	Asp	Asp	Ser	Gln	Leu	
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Glu	Lys	Ala	Asn	Leu	Ile	Glu	Leu	Glu	Asp	Asp	Ser	His	Ser	Gly	
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Lys	Arg	Gly	Ile	Pro	His	Ser	Leu	Ser	Gly	Leu	Gln	Asp	Pro	Ile	
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Ile	Ala	Arg	Met	Ser	Ile	Cys	Ser	Glu	Asp	Lys	Lys	Ser	Pro	Ser	
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gaa	tgc	agc	ttg	ata	gcc	agc	agc	cct	gaa	gaa	aac	tgg	cct	gca	4996
Glu	Cys	Ser	Leu	Ile	Ala	Ser	Ser	Pro	Glu	Glu	Asn	Trp	Pro	Ala	
	1600					1605					1610				
tgc	cag	aaa	gcc	tac	aac	ctg	aac	cga	act	ccc	agc	acc	gtg	act	5041
Cys	Gln	Lys	Ala	Tyr	Asn	Leu	Asn	Arg	Thr	Pro	Ser	Thr	Val	Thr	
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ctg	aac	aac	aat	agt	gct	cca	gcc	aac	aga	gcc	aat	caa	aat	ttc	5086
Leu	Asn	Asn	Asn	Ser	Ala	Pro	Ala	Asn	Arg	Ala	Asn	Gln	Asn	Phe	
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gat	gag	atg	gag	gga	att	agg	gag	act	tct	caa	gtc	att	ttg	agg	5131
Asp	Glu	Met	Glu	Gly	Ile	Arg	Glu	Thr	Ser	Gln	Val	Ile	Leu	Arg	
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cct	agt	tcc	agt	ccc	aac	cca	acc	act	att	cag	aat	gag	aat	cta	5176
Pro	Ser	Ser	Ser	Pro	Asn	Pro	Thr	Thr	Ile	Gln	Asn	Glu	Asn	Leu	
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Lys	Ser	Met	Thr	His	Lys	Arg	Ser	Gln	Arg	Ser	Ser	Tyr	Thr	Arg	
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ctc	tcc	aaa	gat	cct	ccg	gag	ctc	cat	gca	gca	gcc	tct	tct	gag	5266
Leu	Ser	Lys	Asp	Pro	Pro	Glu	Leu	His	Ala	Ala	Ala	Ser	Ser	Glu	
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Ser	Thr	Gly	Phe	Gly	Glu	Glu	Arg	Glu	Ser	Ile	Leu				
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$\langle 211 \rangle$	1715



<212> PRT  
<213> Homo sapiens

<400> 4

Met Ser Val Leu Ile Ser Gln Ser Val Ile Asn Tyr Val Glu Glu Glu  
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Asn Ile Pro Ala Leu Lys Ala Leu Leu Glu Lys Cys Lys Asp Val Asp  
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Glu Arg Asn Glu Cys Gly Gln Thr Pro Leu Met Ile Ala Ala Glu Gln  
35 40 45

Gly Asn Leu Glu Ile Val Lys Glu Leu Ile Lys Asn Gly Ala Asn Cys  
50 55 60

Asn Leu Glu Asp Leu Asp Asn Trp Thr Ala Leu Ile Ser Ala Ser Lys  
65 70 75 80

Glu Gly His Val His Ile Val Glu Glu Leu Leu Lys Cys Gly Val Asn  
85 90 95

Leu Glu His Arg Asp Met Gly Gly Trp Thr Ala Leu Met Trp Ala Cys  
100 105 110

Tyr Lys Gly Arg Thr Asp Val Val Glu Leu Leu Leu Ser His Gly Ala  
115 120 125

Asn Pro Ser Val Thr Gly Leu Gln Tyr Ser Val Tyr Pro Ile Ile Trp  
130 135 140

Ala Ala Gly Arg Gly His Ala Asp Ile Val His Leu Leu Leu Gln Asn  
145 150 155 160

Gly Ala Lys Val Asn Cys Ser Asp Lys Tyr Gly Thr Thr Pro Leu Val  
165 170 175

Trp Ala Ala Arg Lys Gly His Leu Glu Cys Val Lys His Leu Leu Ala  
180 185 190

Met Gly Ala Asp Val Asp Gln Glu Gly Ala Asn Ser Met Thr Ala Leu  
195 200 205

Ile Val Ala Val Lys Gly Gly Tyr Thr Gln Ser Val Lys Glu Ile Leu

210					215					220					
Lys 225	Arg	Asn	Pro	Asn	Val 230	Asn	Leu	Thr	Asp	Lys 235	Asp	Gly	Asn	Thr	Ala 240
Leu	Met	Ile	Ala	Ser 245	Lys	Glu	Gly	His	Thr 250	Glu	Ile	Val	Gln	Asp 255	Leu
Leu	Asp	Ala	Gly 260	Thr	Tyr	Val	Asn	Ile 265	Pro	Asp	Arg	Ser	Gly 270	Asp	Thr
Val	Leu	Ile 275	Gly	Ala	Val	Arg	Gly 280	Gly	His	Val	Glu	Ile 285	Val	Arg	Ala
Leu	Leu 290	Gln	Lys	Tyr	Ala	Asp 295	Ile	Asp	Ile	Arg	Gly 300	Gln	Asp	Asn	Lys
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Asp Ser His Ser Gly Lys Arg Gly Ile Pro His Ser Leu Ser Gly

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Lys Lys Ser Pro Ser Glu Cys Ser Leu Ile Ala Ser Ser Pro Glu  
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48





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260 265 270	
gca att gtt aga atg att ctc gac aaa ttt gct gat atc aat tgt caa	864
Ala Ile Val Arg Met Ile Leu Asp Lys Phe Ala Asp Ile Asn Cys Gln	
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Asp Ser Glu Lys Arg Thr Pro Leu His Leu Ala Ile Asp Lys Ser Phe	
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Asn Asp Ile Ala Tyr Ile Leu Leu Glu Lys Lys Pro Asn Leu Glu Leu	
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Lys Asn Lys Asp Gly Glu Thr Pro Leu Leu Arg Ala Ala Lys Cys Arg	
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His Val His Leu Cys Thr Tyr Leu Met Ser Phe Gly Ala Lys Leu Ala	
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Arg Ser Arg Arg Leu Thr Gln Ala Leu Leu Ser Asn Pro Ser Asp Ser	
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Arg Leu Leu Tyr Arg Pro Asn Lys Leu Gly Gln Thr Pro Tyr Ser Ile	
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Asp Leu Ser Asn Pro Gln Pro Ile Leu Pro Leu Ile Phe Gly Pro Ile	
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Pro Val Arg Leu Phe Cys Cys Met Lys Pro Pro Tyr Pro Gly Ile His	
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Leu Leu Ser Asp Arg Asp Pro Asn Asn Phe Asn Leu Phe Ile Ala Ile	
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Ile Ile Met Tyr Ser Trp Thr Asn Val Pro Arg Arg Arg Val Asn Ala	
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Gln	Leu	Leu	Leu	Ser	Glu	Val	Tyr	Tyr	Gln	Leu	Lys	Asp	His	Ile	Pro	
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Phe	Gln	Asn	Gln	Gln	Thr	Val	Gln	Arg	Arg	Gly	Gly	Asp	Asp	Phe	
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Trp Ser Ala Leu Leu Asn Ala Ala His Cys Gly His Val Asp Ile Val  
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Arg Leu Leu Ile Asp Asn Gly Ala Ser Val Asp Gln Pro Asp Leu Met  
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Gly Trp Ser Pro Leu Met Trp Ala Val Tyr Lys Asn His Leu Asp Val  
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Val Asp Leu Leu Val Asn Ala Lys Val Asn Ala Cys Asp Lys Phe Gly  
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Ser Thr Ala Leu Ile Trp Ala Ala Arg Lys Gly His Leu Pro Val Val  
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Gln Leu Leu Leu Asn Ser Gly Ala Glu Val Asp Ala Val Gly Met Tyr  
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Ser Ser Thr Ala Leu Met Leu Ala Thr Arg Gly Asn Phe Ile Gln Val  
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Val Glu Leu Leu Leu Thr Arg Glu Pro Asn Val Asn Val Ala Asp Gln  
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Ala Ile Val Arg Met Ile Leu Asp Lys Phe Ala Asp Ile Asn Cys Gln  
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Asp Ser Glu Lys Arg Thr Pro Leu His Leu Ala Ile Asp Lys Ser Phe  
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Lys Asn Lys Asp Gly Glu Thr Pro Leu Leu Arg Ala Ala Lys Cys Arg  
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His Val His Leu Cys Thr Tyr Leu Met Ser Phe Gly Ala Lys Leu Ala  
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Ala Val Asp Asn Cys Gly Asp Asn Ala Leu His Leu Ala Leu Arg Ala  
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Arg Ser Arg Arg Leu Thr Gln Ala Leu Leu Ser Asn Pro Ser Asp Ser  
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Arg Leu Leu Tyr Arg Pro Asn Lys Leu Gly Gln Thr Pro Tyr Ser Ile  
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Asp Leu Ser Asn Pro Gln Pro Ile Leu Pro Leu Ile Phe Gly Pro Ile





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Val Ala Val Phe Leu Leu Ile Met Ala Gln Val Phe Gly Thr Val Trp  
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Ala Phe Leu Cys Gly Phe Val Met Ile Ala Ile Tyr Pro Leu Ala Leu  
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Ala Phe Thr Arg Ser His Thr Arg Leu Val Val Val Val Asp Gly Leu  
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785 790 795 800

Val Asp Pro His Val Ile Val Ser Ala Ile Asn His Asn Met His Ser  
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Ala Leu Ser Gly Thr Glu Leu Thr Gly His Asp Tyr Leu Lys Asn Ile  
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Ile Ser Met Pro Phe Tyr Leu His Asn Ser Ala Leu Arg Gln Leu Gln  
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Ser Lys Leu Arg Glu Lys Arg Glu Ser Met Ala Glu Trp Lys Glu Arg  
850 855 860

Phe Lys Arg Gln Asp Thr Phe Tyr Gly Ser His Leu Ser Leu Arg Glu

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Tyr Arg Thr Ser Ser Arg Tyr Arg Arg Met Ser Arg Gly Asp Leu				
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Met Arg Gly Met His Gln Asn Asp Thr Ile Arg Ser Lys Ile Asn				
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Phe Gln Asn Gln Gln Thr Val Gln Arg Arg Gly Gly Asp Asp Phe				
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Gln Tyr Ile Asp Asn Asn Asp Ile Ser Gly Leu Arg Ala Ile Leu Asp	
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Ser Arg His Leu Thr Ile Asp Arg Asp Glu Asn Ala Thr Thr Val	
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Thr Ser Leu Met Trp Ala Ala Tyr Arg Gly His Thr Glu Leu Val Arg	
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Cys Val Ser Ser Ile Leu Glu Lys Lys Pro Asn Val Asn Ala Leu Asp	
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Lys Asp Gly Met Thr Ala Leu Cys Ile Ala Ser Arg Glu Gly Phe Gln	
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Ile	Asp	Ser	Leu	His	Gln	Lys	Thr	Ile	Leu	Gly	Gln	Val	Phe	Gly	Ala		
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Arg	Arg	Leu	Asn	Thr	Asn	Glu	Asp	Ser	Glu	Gly	Met	Leu	Gly	Tyr	Glu		
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ctg	tac	tcc	tct	gcc	ttg	gcg	gat	gtg	ctc	agt	gag	ccg	aca	tta	acc		1440
Leu	Tyr	Ser	Ser	Ala	Leu	Ala	Asp	Val	Leu	Ser	Glu	Pro	Thr	Leu	Thr		
	465				470				475					480			
act	ccc	att	acc	gtt	gga	ctc	tac	gcc	aaa	tgg	ggc	agt	gga	aag	agt		1488
Thr	Pro	Ile	Thr	Val	Gly	Leu	Tyr	Ala	Lys	Trp	Gly	Ser	Gly	Lys	Ser		
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Phe	Leu	Leu	Asn	Lys	Leu	Arg	Asp	Glu	Met	Asn	Asn	Phe	Ala	Arg	Gln		
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Trp	Ala	Glu	Pro	Pro	Ile	Arg	Thr	Ser	Gly	Leu	Leu	Phe	Ile	Val	Cys		
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ctt	cat	gtg	gca	ttg	ctc	att	gga	act	att	gtg	gga	ctg	agc	act	tgg		1632
Leu	His	Val	Ala	Leu	Leu	Ile	Gly	Thr	Ile	Val	Gly	Leu	Ser	Thr	Trp		
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Tyr Leu Leu Leu Ala Ala Val Arg Tyr Cys Asn Tyr Gln Met Asp Met	
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Ser Asp Ser Gln Ala Lys Pro Val Arg Phe His Phe Ala Glu Ala Asn	
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Leu Leu Asp Ala Ile Glu Ser His Tyr Gly Trp Leu Ala Thr Arg Leu	
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Glu Val Ala Val Met Thr Asp Met Val Lys Cys Leu Asp Ala Phe Thr	
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Asp	Thr	Glu	Arg	Ile	Leu	Thr	Leu	Leu	Asn	Ala	Val	Gln	Thr	Leu	Leu		
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Ser	Ser	Pro	Asn	Arg	Pro	Phe	Val	Leu	Leu	Ile	Ser	Val	Asp	Pro	His		
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Val	Ile	Ala	Lys	Ala	Ala	Glu	Ala	Asn	Ser	Arg	Arg	Leu	Phe	Thr	Glu		
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Ser Arg His Leu Thr Ile Asp Asp Arg Asp Glu Asn Ala Thr Thr Val  
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Leu Ala Arg Gly Ala Asp Val Gln Ala Glu Asp Leu Asp Asn Trp Thr  
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Ala Leu Leu Cys Ala Ser Arg Asn Gly His Leu Asp Val Val Gln Leu  
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Leu Leu Asp His Gly Ala Glu Val Glu His Arg Asp Met Gly Gly Trp  
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Thr Ser Leu Met Trp Ala Ala Tyr Arg Gly His Thr Glu Leu Val Arg  
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 Gly Thr Thr Ala Leu Val Trp Ala Cys Arg Arg Gly Asn Val Glu Ile  
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 Tyr Ser Trp Thr Pro Leu Leu Val Ala Ala Ala Gly Gly His Thr Asp  
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 Cys Val Ser Ser Ile Leu Glu Lys Lys Pro Asn Val Asn Ala Leu Asp  
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Tyr Arg Ala Phe Arg Pro Lys Cys Leu Lys Val Asp Val Gly Trp Arg 660 665 670		
Trp Arg Arg Met Cys Cys Ile Pro Ile Val Leu Ile Phe Glu Leu Ala 675 680 685		
Leu Val Thr Val Val Thr Gly Ile Ser Leu Thr Val Ala Tyr Phe Thr 690 695 700		
Phe Ala Asp Glu Lys Glu Lys Glu His Ile Leu Val Ala Leu Tyr Val 705 710 715 720		
Ile Ala Ala Val Met Gly Thr Leu Ile Cys Thr His Leu His Val Leu 725 730 735		
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